

## CLAIMS

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1. A method for predictively assessing one or more characteristics of wood fibre or wood pulp produced from solid wood, comprising determining the velocity of sound through the solid wood, and assessing characteristic(s) of wood fibre or wood pulp produced from the wood by reference to the velocity of sound through the solid wood.
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2. A method for predictively assessing one or more characteristics of wood fibre or wood pulp produced from solid wood, comprising causing a sound wave to be transmitted through the wood, determining the velocity of the sound wave through the wood, and comparing the result to stored information on fibre characteristic(s) versus sound velocity through the wood-type to determine the fibre characteristic(s) for the wood.
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3. A method for predictively assessing one or more characteristics of wood fibre or wood pulp produced from solid wood, comprising placing a sensing means capable of detecting sound in the wood in contact with or within sensing distance of one end of a length of wood, placing a second sensing means capable of detecting sound in the wood in contact with or within sensing distance of another end of the length of wood, causing a sound wave to be transmitted in the length of wood from one end to the other, detecting the sound at each end of the length of wood via the sensing means and determining the velocity of sound in the wood, and assessing characteristic(s) of wood fibre or wood pulp produced from the wood by reference to stored information on fibre characteristic(s) versus sound velocity through the wood.
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4. A method for predictively assessing one or more characteristics of wood fibre or wood pulp produced from solid wood including placing means capable of detecting both an original and reflected sound wave in contact with or within sensing distance of one end of a length of wood, causing a sound wave to be transmitted in the length of wood, detecting a reflected echo of the sound in the wood, determining the velocity of the sound in the wood, and assessing characteristic(s) of wood fibre or wood pulp produced from the wood by reference to stored information on fibre characteristics versus sound velocity through the wood.
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5. A method according to any one of claims 1 to 4 including causing a sound wave to be transmitted through the wood by impacting one end of the length of wood.
6. A method according to any one of claims 1 to 5 wherein the fibre characteristic is a measure of the average fibre length.
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7. A method according to any one of claims 1 to 5 wherein the fibre characteristic is a measure of the strength of pulp formed from the wood.
- 10 8. A method of segregating wood for use in pulp and paper or fibre board production including determining one or more fibre characteristics of the individual lengths of wood using the method of any one of the preceding claims.
- 15 9. Apparatus for predictively assessing one or more characteristics of wood fibre or wood pulp produced from solid wood, comprising sensing means capable of detecting the velocity of a sound wave through a length of wood, and computer processing means comprising stored information on fibre characteristics versus sound velocity through wood and arranged to determine the fibre characteristic(s) for the wood by reference to said stored information on fibre characteristics versus velocity through the wood.
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10. Apparatus for predictively assessing one or more characteristics of wood fibre or wood pulp produced from solid wood, comprising means capable of detecting both an original and reflected sound wave in a length of wood, and computer processing means comprising stored information on fibre characteristics versus sound velocity through wood and arranged to determine the fibre characteristic(s) for the wood by reference to said stored information on fibre characteristics versus velocity through the wood.
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- 30 11. Apparatus according to claim 8 or 9 arranged to determine a measure of the average fibre length.
12. Apparatus according to claim 8 arranged to determine a measure of the strength of pulp formed from the wood.

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